## Practice: 432 - Dry Hydrant

## Scenario: #1 - PVC

### Scenario Description:

A non-pressurized permanent PVC pipe assembly system installed into an adequate water source with an all weather access that permits the withdrawal of water by suction for fire suppression. The location must have an adequate volume of water available, where transport vehicles can access the site, and where a source of water is needed for fire suppression. The resource concerns addressed include reduced visibility due to fire and lack of access to water for fire suppression.

### Before Situation:

A location where an adequate volume of water is available, where transport vehicles can access the site, and where an adequate source of water is needed for fire suppression.

### After Situation:

The typical dry hydrant will use 200 ft. of 6 inch PVC pipe, installed into an adequate water source with an all weather access that permits the withdrawal of water by suction for fire suppression. The pipe is fitted with an intake strainer and hydrant head with standard fire truck hose adapters acceptable to the local fire department, for quick connect/release. Plastic pipe is protected from ultraviolet rays. The dry hydrant is constructed by installing the pipe using a backhoe or other trenching equipment. Vegetation of disturbed areas will be completed under critical area planting (342). All weather access will use Heavy Use Area Protection (561). Erosion control during construction activities will use Stormwater Runoff Control (570). Other associated practices include Pond (378), Dam (402), Access Road (560), and Access Control (472).

**Scenario Feature Measure:** Number

**Scenario Unit:** Each

**Scenario Typical Size:** 1

**Scenario Cost:** $2,625.51 **Scenario Cost/Unit:** $2,625.51

### Cost Details (by category):

| Component Name | ID | Component Description | Unit | Price ($/unit) | Quantity | Cost |
|---|---|---|---|---|---|---|
| ***Equipment/Installation*** | | | | | | |
| Hydraulic Excavator, 1 CY | 931 | Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included. | Hour | $118.74 | 5 | $593.70 |
| ***Labor*** | | | | | | |
| Equipment Operators, Light | 232 | Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers | Hour | $22.38 | 6 | $134.28 |
| General Labor | 231 | Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc. | Hour | $18.71 | 16 | $299.36 |
| ***Materials*** | | | | | | |
| Post, Rebar ½" x 8' | 2294 | Fabricated post consisting of 1/2" diameter rebar approximately 8' length. Material only. | Each | $2.84 | 2 | $5.68 |
| Dry Hydrant head assembly, 6" PVC, 90 degree | 2288 | Dry Hydrant assembly for 6 inch PVC pipe consisting of 90º degree pipe elbow, bronze insert with 6-inch NST male thread, rubber "O" ring, threaded cap, conical strainer, and end cap. Material cost only. | Each | $172.46 | 1 | $172.46 |
| Pipe, PVC, 6", Coupling | 2286 | Pipe, PVC Schedule 40, 6" Diameter, Coupling. Material cost only. | Each | $14.19 | 4 | $56.76 |
| Pipe, PVC, 6", Elbow, 45 degree | 2283 | Pipe, PVC Schedule 40, 6" Diameter, Elbow, 45 Degree. Material cost only. | Each | $30.08 | 2 | $60.16 |
| Well Screen, plastic, 6" | 1999 | 6" PVC well screen. Materials only. | Foot | $17.00 | 6 | $102.00 |
| Well Cap, 6" | 1786 | Well cap, 6". Materials only. | Each | $33.29 | 1 | $33.29 |
| Lumber, planks, posts and timbers, treated | 1609 | Treated dimension lumber with nominal thickness greater than 2". Includes lumber and fasteners. Does not include labor. | Board Foot | $1.68 | 30 | $50.40 |
| Rock Riprap, graded, angular, material and shipping | 1200 | Graded Rock Riprap for all gradation ranges. Includes materials and delivery only. | Ton | $23.53 | 8 | $188.24 |
| Pipe, PVC, 6", SCH 40 | 980 | Materials: - 6" - PVC - SCH 40 - ASTM D1785 | Foot | $6.63 | 100 | $663.00 |

***Mobilization***

| | | | | | | |
|---|---|---|---|---|---|---|
| Mobilization, medium equipment | 1139 | Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds. | Each | $266.18 | 1 | $266.18 |